

ESPA Contribution to Reach Gain; Snake River - Kimberly to Lower Salmon Falls (AF); reach gain less south side ground water contribution

W-YR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1980								308,779	301,579	261,179	272,979	298,779	
1981	297,679	273,979	274,279	266,179	228,479	242,479	252,479	250,979	279,879	249,179	260,579	283,179	3,159,347
1982	300,636	256,536	262,536	254,736	237,236	254,336	243,836	269,036	279,836	288,736	274,736	299,436	3,221,629
1983	304,092	282,892	298,992	293,192	232,592	251,592	306,192	281,192	285,592	298,892	304,092	294,892	3,434,205
1984	301,038	266,738	275,238	248,538	257,938	261,038	245,338	245,138	230,738	279,538	277,338	299,238	3,187,854
1985	291,384	261,484	259,984	274,384	284,984	251,284	265,184	251,484	255,784	252,084	258,084	300,984	3,207,110
1986	316,761	282,661	276,661	287,261	261,961	253,561	261,361	259,961	281,861	277,461	272,461	311,461	3,343,437
1987	321,406	273,606	266,606	267,506	223,806	245,806	240,906	251,106	251,706	266,106	265,906	283,106	3,157,570
1988	295,230	262,730	263,530	254,230	231,430	248,130	246,230	259,030	252,330	259,330	270,430	287,130	3,129,766
1989	295,144	269,144	264,144	239,144	215,844	252,644	248,044	257,644	245,144	259,744	288,944	309,244	3,144,828
1990	328,750	266,850	260,450	253,050	217,650	243,950	248,250	265,650	277,750	261,150	277,950	292,450	3,193,900
1991	322,663	267,363	260,663	244,463	216,363	234,763	235,663	259,063	249,463	255,463	267,663	295,563	3,109,154
1992	304,308	261,208	252,108	242,108	221,308	225,808	225,308	214,808	208,108	227,308	226,108	229,808	2,838,294
1993	253,131	238,531	229,531	222,731	209,931	230,831	222,931	230,731	249,031	227,831	257,331	260,331	2,832,867
1994	280,492	234,192	240,692	234,492	197,492	220,592	228,692	232,492	214,592	217,892	236,992	245,092	2,783,700
1995	282,240	240,340	238,840	232,540	200,840	223,640	225,140	215,440	247,640	230,840	232,440	252,440	2,822,381
1996	271,683	236,783	231,483	208,283	200,083	204,283	241,883	246,983	227,383	222,283	230,183	255,183	2,776,496
1997	273,618	243,118	252,118	246,018	238,218	289,818	288,918	274,818	275,118	255,818	248,618	281,318	3,167,515
1998	303,926	282,926	259,226	244,326	218,826	263,926	273,226	302,726	290,026	238,226	226,826	253,226	3,157,413
1999	274,528	250,428	278,928	265,328	234,628	263,628	274,628	289,628	283,628	224,728	236,128	248,628	3,124,832
2000	272,623	250,723	249,123	256,723	232,123	236,023	243,623	261,723	232,423	221,723	226,123	253,323	2,936,282
2001	269,234	231,234	233,634	229,834	207,234	235,334	252,134	247,634	228,234	239,834	237,134	249,734	2,861,209
2002	272,986	246,186	242,986	240,986	208,386	230,386	244,986	243,386	223,386	221,886	223,286	239,686	2,838,537
2003	260,523	234,423	237,523	230,623	199,123	218,123	232,023	245,723	207,323	214,123	222,323	236,523	2,738,377
2004	256,529	233,129	239,429	234,729	218,329	225,229	230,929	232,229	202,429	206,329	209,329	219,529	2,708,148
2005	245,605	220,305	225,205	219,605	191,205	215,605	218,305	239,505	215,105	209,205	219,905	225,405	2,644,964
2006	252,044	222,944	228,944	223,844	192,744	222,744	238,044	265,944	216,044	214,244	225,144	233,944	2,736,625
2007	256,524	222,224	218,224	217,024	186,824	214,224	228,324	227,024	200,724	204,424	221,124	228,224	2,624,885
2008	251,594	221,694	225,094	217,694	199,594	213,094	225,794	223,894	215,094	201,694	209,594	221,394	2,626,226



Contribution to reach gains between Kimberly and Hagerman (Lower Salmon Falls) from the south side of the Snake River

Water Year	TFCC Diversions (AF)	Measured TFCC Returns (AF)	Effective precipitation on irrigated lands (AF)	ET (AF)	Recharge from TFCC irrigation - Diversions + effective precip, less returns and ET (AF)	Underflow from Salmon Falls drainage (AF)	Estimated South Side contribution, Milner to LSF (AF)	Milner to Kimberly reach gain (AF)	Milner to Kimberly reach gain as fraction of South Side contribution, Milner to LSF	Estimated South Side contribution, Kimberly to LSF (AF)	Kimberly to LSF reach gain (AF)	Reach gain less south side contribution, Kimberly to LSF (AF)	% of Kimberly to LSF reach gain	Monthly south side contribution for water year, Kimberly to LSF (AF)
1980	1,090,100	120,100						227,400			3,635,700			
1981	1,149,800	123,300	93,203	650,524	469,179	116,947	586,126	123,700	21%	315,853	3,475,200	3,159,347	9.1%	26,321
1982	1,035,700	115,100	78,121	664,596	334,125	119,352	453,477	232,900	51%	244,371	3,466,000	3,221,629	7.1%	20,364
1983	1,030,100	112,900	115,644	691,585	341,258	128,780	470,038	154,000	33%	253,295	3,687,500	3,434,205	6.9%	21,108
1984	993,400	109,500	73,981	636,222	321,660	127,318	448,978	563,800	126%	241,946	3,429,800	3,187,854	7.1%	20,162
1985	1,090,400	120,900	83,668	613,384	439,784	121,730	561,513	377,300	67%	302,590	3,509,700	3,207,110	8.6%	25,216
1986	1,148,000	125,700	76,668	648,679	450,289	118,412	568,701	304,000	53%	306,463	3,649,900	3,343,437	8.4%	25,539
1987	1,133,200	125,300	83,104	683,969	407,035	113,914	520,949	329,500	63%	280,730	3,438,300	3,157,570	8.2%	23,394
1988	1,068,100	112,300	74,686	665,047	365,439	105,970	471,409	257,900	55%	254,034	3,383,800	3,129,766	7.5%	21,170
1989	1,105,700	99,400	51,123	662,970	394,453	105,603	500,056	241,000	48%	269,472	3,414,300	3,144,828	7.9%	22,456
1990	1,183,900	109,000	77,328	656,278	495,950	106,407	602,357	267,800	44%	324,600	3,518,500	3,193,900	9.2%	27,050
1991	1,157,200	106,300	69,676	629,741	490,835	104,557	595,392	237,200	40%	320,846	3,430,000	3,109,154	9.4%	26,737
1992	1,000,500	95,800	74,180	634,818	344,062	103,356	447,418	203,700	46%	241,106	3,079,400	2,838,294	7.8%	20,092
1993	1,027,800	90,200	66,711	614,810	389,501	106,401	495,902	267,700	54%	267,233	3,100,100	2,832,867	8.6%	22,269
1994	1,096,200	102,600	77,463	624,673	446,390	108,277	554,667	258,900	47%	298,900	3,082,600	2,783,700	9.7%	24,908
1995	1,037,700	93,500	147,392	653,164	438,427	108,481	546,908	294,000	54%	294,719	3,117,100	2,822,381	9.5%	24,560
1996	1,170,600	108,600	114,553	616,811	559,742	119,820	679,562	352,700	52%	366,204	3,142,700	2,776,496	11.7%	30,517
1997	1,163,800	107,900	68,128	599,677	524,351	121,030	645,381	165,300	26%	347,785	3,515,300	3,167,515	9.9%	28,982
1998	1,095,400	100,200	117,431	624,894	487,737	121,833	609,570	216,500	36%	328,487	3,485,900	3,157,413	9.4%	27,374
1999	1,129,400	103,800	59,536	603,898	481,238	119,390	600,628	169,900	28%	323,668	3,448,500	3,124,832	9.4%	26,972
2000	1,195,900	110,300	64,995	629,449	521,146	112,978	634,123	233,700	37%	341,718	3,278,000	2,936,282	10.4%	28,477
2001	1,027,100	96,000	49,582	605,217	375,465	104,770	480,236	232,000	48%	258,791	3,120,000	2,861,209	8.3%	21,566
2002	1,003,500	91,600	77,614	588,598	400,916	102,650	503,566	202,600	40%	271,363	3,109,900	2,838,537	8.7%	22,614
2003	1,031,300	94,800	74,753	605,410	405,844	103,586	509,430	200,000	39%	274,523	3,012,900	2,738,377	9.1%	22,877
2004	1,000,500	92,900	86,041	566,303	427,337	104,229	531,566	193,400	36%	286,452	2,994,600	2,708,148	9.6%	23,871
2005	924,400	84,100	73,255	591,784	321,771	107,888	429,659	182,400	42%	231,536	2,876,500	2,644,964	8.0%	19,295
2006	1,000,900	92,600	75,717	570,523	413,493	113,291	526,784	161,200	31%	283,875	3,020,500	2,736,625	9.4%	23,656
2007	1,066,200	97,700	55,256	589,174	434,582	110,462	545,044	223,500	41%	293,715	2,918,600	2,624,885	10.1%	24,476
2008	1,076,400	98,000	73,541	550,105	501,836	101,772	603,608	198,400	33%	325,274	2,951,500	2,626,226	11.0%	27,106
<b>Average</b>	<b>1,077,007</b>	<b>104,841</b>	<b>79,762</b>	<b>624,011</b>	<b>427,994</b>	<b>112,114</b>	<b>540,109</b>	<b>243,876</b>	<b>46%</b>	<b>291,055</b>	<b>3,285,959</b>	<b>2,982,413</b>	<b>8.9%</b>	<b>24,255</b>

Min	321,660	101,772	429,659	123,700	21%	231,536	2,876,500	7%
Max	559,742	128,780	679,562	563,800	126%	366,204	3,687,500	12%
Average	427,994	112,114	540,109	244,464	46%	291,055	3,273,468	9%
Median	430,960	109,471	538,305	232,450	43%	290,083	3,330,900	9%

Reach Gain Snake River Kimberly to Lower Salmon Falls less returns and RC-LSFC-MC-CD-DC (100 Ac-Ft)

W-YR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1980	3329	2955	2949	2914	2696	2946	2819	3351	3279	2875	2993	3251	36357
1981	3240	3003	3006	2925	2548	2688	2788	2773	3062	2755	2869	3095	34752
1982	3210	2769	2829	2751	2576	2747	2642	2894	3002	3091	2951	3198	34660
1983	3252	3040	3201	3143	2537	2727	3273	3023	3067	3200	3252	3160	36875
1984	3212	2869	2954	2687	2781	2812	2655	2653	2509	2997	2975	3194	34298
1985	3166	2867	2852	2996	3102	2765	2904	2767	2810	2773	2833	3262	35097
1986	3423	3082	3022	3128	2875	2791	2869	2855	3074	3030	2980	3370	36499
1987	3448	2970	2900	2909	2472	2692	2643	2745	2751	2895	2893	3065	34383
1988	3164	2839	2847	2754	2526	2693	2674	2802	2735	2805	2916	3083	33838
1989	3176	2916	2866	2616	2383	2751	2705	2801	2676	2822	3114	3317	34143
1990	3558	2939	2875	2801	2447	2710	2753	2927	3048	2882	3050	3195	35185
1991	3494	2941	2874	2712	2431	2615	2624	2858	2762	2822	2944	3223	34300
1992	3244	2813	2722	2622	2414	2459	2454	2349	2282	2474	2462	2499	30794
1993	2754	2608	2518	2450	2322	2531	2452	2530	2713	2501	2796	2826	31001
1994	3054	2591	2656	2594	2224	2455	2536	2574	2395	2428	2619	2700	30826
1995	3068	2649	2634	2571	2254	2482	2497	2400	2722	2554	2570	2770	31171
1996	3022	2673	2620	2388	2306	2348	2724	2775	2579	2528	2607	2857	31427
1997	3026	2721	2811	2750	2672	3188	3179	3038	3041	2848	2776	3103	35153
1998	3313	3103	2866	2717	2462	2913	3006	3301	3174	2656	2542	2806	34859
1999	3015	2774	3059	2923	2616	2906	3016	3166	3106	2517	2631	2756	34485
2000	3011	2792	2776	2852	2606	2645	2721	2902	2609	2502	2546	2818	32780
2001	2908	2528	2552	2514	2288	2569	2737	2692	2498	2614	2587	2713	31200
2002	2956	2688	2656	2636	2310	2530	2676	2660	2460	2445	2459	2623	31099
2003	2834	2573	2604	2535	2220	2410	2549	2686	2302	2370	2452	2594	30129
2004	2804	2570	2633	2586	2422	2491	2548	2561	2263	2302	2332	2434	29946
2005	2649	2396	2445	2389	2105	2349	2376	2588	2344	2285	2392	2447	28765
2006	2757	2466	2526	2475	2164	2464	2617	2896	2397	2379	2488	2576	30205
2007	2810	2467	2427	2415	2113	2387	2528	2515	2252	2289	2456	2527	29186
2008	2787	2488	2522	2448	2267	2402	2529	2510	2422	2288	2367	2485	29515

#63 Reach Gain Snake River Milner to Kimberly (100 AF) - Kimberly gage less Milner gage (no diversions, returns, or measured inflows in this reach)

W-YR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1980	223	192	190	185	158	172	197	95	223	195	218	226	2274
1981	187	82	50	32	121	120	-20	77	-67	193	216	246	1237
1982	263	232	217	173	189	5	210	143	162	131	273	331	2329
1983	65	-7	39	-47	-48	56	-85	726	160	246	220	215	1540
1984	201	246	357	543	407	103	419	899	1348	324	436	355	5638
1985	344	343	486	406	275	223	244	231	270	277	324	350	3773
1986	281	241	229	201	222	255	221	342	200	288	288	272	3040
1987	384	330	260	311	279	211	228	239	215	253	271	314	3295
1988	323	235	215	200	174	179	146	182	196	230	247	252	2579
1989	219	213	186	175	155	180	141	169	184	243	275	270	2410
1990	254	259	239	206	162	161	159	194	213	226	245	360	2678
1991	258	236	180	262	151	150	142	174	182	183	222	232	2372
1992	207	149	169	176	134	135	148	155	164	193	206	201	2037
1993	335	303	284	176	115	194	134	133	315	217	248	223	2677
1994	226	181	197	197	176	198	205	229	242	263	252	223	2589
1995	214	232	147	161	131	142	128	349	647	244	268	277	2940
1996	221	195	168	170	245	464	411	295	452	310	317	279	3527
1997	239	227	190	-147	228	-305	4	205	335	299	222	156	1653
1998	193	102	183	216	252	159	91	-46	86	311	311	307	2165
1999	282	133	-44	73	67	95	86	42	52	288	326	299	1699
2000	255	181	146	22	184	167	156	184	181	281	318	262	2337
2001	274	212	173	161	143	151	153	185	186	214	233	235	2320
2002	211	179	168	152	130	139	132	137	152	186	212	228	2026
2003	218	172	170	149	122	130	135	144	147	187	211	215	2000
2004	193	163	152	135	119	124	140	156	167	191	197	197	1934
2005	199	145	137	120	98	111	115	122	132	224	221	200	1824
2006	176	154	135	121	68	106	-87	76	152	204	271	236	1612
2007	211	172	144	146	179	166	149	148	161	259	258	242	2235
2008	212	160	137	123	107	124	135	163	162	165	279	217	1984

13087500 HISTORIC DIVERSION SOUTH SIDE TWIN FALLS CANAL AT MILNER (1000 AC-FT)

W-YR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1980	87.3	1.2	0	0	0	5.2	81.3	191.2	167	216.4	210	130.5	1090.1
1981	74.9	1.3	0	0	0	2.7	91.5	189.1	186.3	218.6	216.3	169.1	1149.8
1982	69.8	0	0	0	0	0	16.3	178.2	188.7	213.2	216.3	153.2	1035.7
1983	48.5	0	0	0	0	1.3	45.9	154.8	196.6	215.3	200.9	166.8	1030.1
1984	73.6	0	0	0	0	0	23.9	144.8	163.6	216.7	207.2	163.6	993.4
1985	62.8	0	0	0	0	0	48.8	200.5	200.1	223.6	216.9	137.7	1090.4
1986	77.4	15.1	0	0	0	2	87.4	191.7	195.1	217.5	209.3	152.5	1148
1987	74.5	4.2	0	0	0	9	102.5	193.1	188.6	206.8	203.8	150.7	1133.2
1988	73.2	0	0	0	0	2.2	77.3	184.3	196.1	220.3	196.6	118.1	1068.1
1989	61.5	0	0	0	0	3.4	46.9	190.5	202.7	221.5	219.2	160	1105.7
1990	90.1	0	0	0	0	10.2	108.5	190.1	185.7	224	215.7	159.6	1183.9
1991	93.6	6.4	0	0	0	3.9	74	171.7	203.4	220.1	223.4	160.7	1157.2
1992	79.3	0	0	0	0	2.9	121.7	186.8	164.2	171.3	167.9	106.4	1000.5
1993	59.7	0	0	0	0	0	18.7	155	182	221.1	212.1	179.2	1027.8
1994	88.5	0	0	0	0	5.4	107.8	167	180.4	203.1	195.7	148.3	1096.2
1995	58.6	0	0	0	0	0	56.5	138.1	160.4	222.7	222.4	179	1037.7
1996	96.8	0	0	0	0	13.7	71.5	184.1	204.2	224.6	214.7	161	1170.6
1997	102.9	0	0	0	11.1	23.4	84.7	183.7	186.6	218.9	203.5	149	1163.8
1998	82.5	25.8	0	0	0	36.7	54	136.3	166.5	219.8	220.1	153.7	1095.4
1999	76.5	0.2	0	0	20.1	36.8	67.5	145.6	190.6	221.4	208.5	162.2	1129.4
2000	103.9	0	0	0	0	5	99.9	188.8	210.2	223.5	211.8	152.8	1195.9
2001	73.4	0	0	0	0	0	69.8	187.5	194.1	187.9	174.2	140.2	1027.1
2002	58.6	0	0	0	0	0	39.3	171.1	189	205.7	194	145.8	1003.5
2003	64.1	0	0	0	0	0	52.9	162.3	200	209	199.6	143.4	1031.3
2004	79.5	0	0	0	0	0	83.4	172.2	177.6	175.9	169.2	142.7	1000.5
2005	80.9	0	0	0	0	0	36.3	101.2	161.3	204.7	191.2	148.8	924.4
2006	74.4	0	0	0	0	0	33.1	164	188	211.6	198.5	131.3	1000.9
2007	69.3	0	0	0	0	4.9	79.3	176	193	208.1	193.4	142.2	1066.2
2008	56.9	0	0	0	0	6.8	60.8	183.7	189.4	215.4	201.7	161.7	1076.4

Return Flow Estimates of Twin Falls South Side Canal

W-YR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1980	15.6	9.6	4.9	2.4	0.9	0.2	3.4	10.2	14.1	18.4	21	19.4	120.1
1981	14.9	9.2	4.9	2.1	0.8	0.1	3.7	10.4	15	19.1	21.7	21.4	123.3
1982	16.2	9.8	5.2	2.4	0.7	0	0.7	7.6	13.2	17.9	20.8	20.5	115.1
1983	14.9	8.8	4.7	2	0.5	0.1	1.9	7.6	13.4	18.1	20.4	20.5	112.9
1984	16.1	9.7	5.1	2.4	0.7	0	1	6.5	11.4	16.7	19.7	20.2	109.5
1985	15.4	9.4	5	2.3	0.6	0	2	9.5	15	19.4	21.9	20.5	120.9
1986	15.8	10.1	5.5	2.5	0.9	0.2	3.6	10.3	15.3	19.3	21.6	20.6	125.7
1987	15.9	9.7	5.2	2.4	0.8	0.4	4.4	11	15.5	18.9	21.1	20.1	125.3
1988	16.2	8.7	4.6	1.9	0	0.1	3.8	10.8	14.8	18.3	18.5	14.6	112.3
1989	9.9	4.3	1.6	0.4	0	0.2	2.4	10.4	14.8	18.5	19.8	17.2	99.4
1990	12.6	5.7	2.3	0.5	0	0.5	5.5	11.9	15	18.6	19.4	17	109
1991	12.7	6.1	2.5	0.7	0	0.2	3.7	10.1	14.9	18.3	19.9	17.3	106.3
1992	12.1	5.5	2.2	0.5	0	0.1	6	11.9	14	15.5	15.6	12.5	95.8
1993	8.8	3.9	1.5	0.4	0	0	0.9	8	12.6	17.3	18.9	17.9	90.2
1994	12.8	5.9	2.4	0.5	0	0.3	5.4	10.6	14.2	17.1	17.8	15.7	102.6
1995	10.3	4.7	1.8	0.4	0	0	2.8	8	11.7	16.9	19	18	93.5
1996	13.4	6.1	2.5	0.6	0	0.7	3.8	10.8	15.2	18.7	19.6	17.2	108.6
1997	13.2	6	2.5	0.6	0.5	1.4	4.8	11.3	14.6	18.1	18.7	16.2	107.9
1998	11.7	6.5	2.7	0.9	0.2	1.8	3.5	8.4	12.2	16.8	18.9	16.7	100.2
1999	11.8	5.3	2.1	0.5	1	2.2	4.4	9.3	13.8	17.6	18.8	17	103.8
2000	13.1	6	2.5	0.6	0	0.2	5	11.5	16	19	19.6	16.8	110.3
2001	11.5	5.2	2	0.4	0	0	3.4	10.7	14.7	16.7	16.7	14.7	96
2002	9.7	4.4	1.7	0.4	0	0	1.9	9.2	13.6	17	17.9	15.6	91.6
2003	10.5	4.8	1.8	0.4	0	0	2.6	9.1	14.2	17.4	18.4	15.8	94.8
2004	11.3	5.1	2.1	0.5	0	0	4.1	10.3	13.7	15.6	15.9	14.4	92.9
2005	10.7	4.9	2.1	0.5	0	0	1.8	5.8	10.7	15.3	16.9	15.5	84.1
2006	11	5	2	0.4	0	0	1.6	8.8	13.3	17.2	18.2	15.1	92.6
2007	10.5	4.7	1.8	0.4	0	0.2	4	10.4	14.5	17.6	18	15.5	97.7
2008	10.1	4.5	1.7	0.3	0	0.3	3.1	10.4	14.3	17.8	18.6	16.7	98

Monthly ET (feet) for cropland in Twin Falls County (from 'ET\_TO\_COUNTIES\_20090717\_GIS1.ZIP' through 'ET\_TO\_COUNTIES\_20090717\_GIS4.ZIP')

W-YR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Water year ET (ft)	Irrigated Acres	Year irrigated area evaluated	ET (AF)
1980								0.389	0.441	0.569	0.375	0.300				
1981	0.140	0.071	0.086	0.040	0.064	0.122	0.239	0.323	0.432	0.625	0.438	0.240	2.820	230,682	1980	650,524
1982	0.163	0.087	0.073	0.043	0.082	0.131	0.189	0.304	0.449	0.572	0.488	0.300	2.881	230,682	1980	664,596
1983	0.133	0.084	0.053	0.072	0.111	0.166	0.219	0.378	0.442	0.599	0.456	0.285	2.998	230,682	1980	691,585
1984	0.179	0.086	0.028	0.030	0.047	0.082	0.128	0.322	0.460	0.609	0.483	0.304	2.758	230,682	1980	636,222
1985	0.141	0.092	0.047	0.039	0.050	0.082	0.106	0.332	0.529	0.684	0.488	0.069	2.659	230,682	1980	613,384
1986	0.082	0.031	0.038	0.047	0.104	0.132	0.256	0.404	0.597	0.524	0.414	0.183	2.812	230,682	1980	648,679
1987	0.189	0.053	0.013	0.051	0.097	0.150	0.254	0.396	0.515	0.601	0.414	0.231	2.964	230,759	1992	683,969
1988	0.147	0.088	0.062	0.054	0.057	0.098	0.250	0.374	0.550	0.619	0.395	0.188	2.882	230,759	1992	665,047
1989	0.140	0.077	0.044	0.056	0.038	0.183	0.192	0.346	0.471	0.649	0.390	0.287	2.873	230,759	1992	662,970
1990	0.166	0.047	0.035	0.057	0.048	0.104	0.261	0.381	0.516	0.563	0.420	0.246	2.844	230,759	1992	656,278
1991	0.104	0.039	0.024	0.060	0.048	0.133	0.183	0.348	0.396	0.634	0.481	0.279	2.729	230,759	1992	629,741
1992	0.138	0.080	0.051	0.028	0.064	0.103	0.297	0.448	0.581	0.497	0.316	0.148	2.751	230,759	1992	634,818
1993	0.109	0.061	0.045	0.041	0.037	0.158	0.184	0.363	0.458	0.543	0.421	0.273	2.693	228,299	1992	614,810
1994	0.151	0.003	0.022	0.047	0.078	0.074	0.256	0.404	0.545	0.641	0.395	0.150	2.766	225,840	1992	624,673
1995	0.163	0.060	0.036	0.065	0.081	0.183	0.203	0.393	0.433	0.577	0.464	0.266	2.924	223,380	1992	653,164
1996	0.115	0.091	0.073	0.055	0.079	0.136	0.221	0.345	0.518	0.624	0.374	0.161	2.792	220,921	1992	616,811
1997	0.126	0.059	0.058	0.053	0.054	0.075	0.184	0.401	0.521	0.593	0.407	0.214	2.745	218,461	1992	599,677
1998	0.139	0.047	0.027	0.075	0.105	0.104	0.243	0.392	0.388	0.617	0.464	0.292	2.893	216,002	1992	624,894
1999	0.139	0.081	0.055	0.053	0.095	0.077	0.169	0.349	0.417	0.649	0.462	0.282	2.828	213,542	1992	603,898
2000	0.128	0.070	0.037	0.051	0.113	0.133	0.262	0.428	0.559	0.612	0.403	0.186	2.982	211,083	2006	629,449
2001	0.178	0.043	0.026	0.052	0.063	0.085	0.220	0.426	0.549	0.609	0.419	0.231	2.901	208,623	2006	605,217
2002	0.165	0.062	0.033	0.054	0.057	0.091	0.199	0.346	0.520	0.678	0.401	0.249	2.855	206,164	2006	588,598
2003	0.116	0.057	0.037	0.074	0.064	0.126	0.242	0.403	0.538	0.716	0.401	0.198	2.972	203,704	2006	605,410
2004	0.109	0.040	0.060	0.030	0.046	0.089	0.246	0.414	0.585	0.633	0.379	0.183	2.814	201,245	2006	566,303
2005	0.163	0.071	0.046	0.032	0.110	0.085	0.269	0.422	0.421	0.611	0.454	0.293	2.977	198,785	2006	591,784
2006	0.102	0.071	0.039	0.063	0.061	0.104	0.247	0.391	0.553	0.661	0.408	0.206	2.906	196,326	2006	570,523
2007	0.183	0.083	0.049	0.049	0.041	0.096	0.281	0.432	0.599	0.629	0.365	0.194	3.001	196,326	2006	589,174
2008	0.225	0.063	0.034	0.046	0.067	0.110	0.075	0.276	0.462	0.707	0.445	0.292	2.802	196,326	2006	550,105

Irrigated agricultural acreage estimated within Twin Falls Canal Company service area in 1980, 1992, 2006

Year	Shapefile acres	Reduction factor	Add.Area (1980)	Add.Area (1980 red)	Add. Area (2006)	Irrigated acres
1980	248,045	0.07				230,682
1992	207,762	0.06	43,996	40,916	35,463	230,759
2006	196,326	0				196,326



Effective precipitation (ft) \* crop mix ratio

Twin Falls	Alfalfa	Barley	DrBean	GrCorn	SilCorn	Oats	Potatoes	SugBeet	SprWht	WinWht	Annual P <sub>eff</sub>		
											Sum (ft)	Sum (mm)	AF
1980	0.171	0.067	0.040	0.011	0.009	0.003	0.017	0.012	0.066	0.079	0.475	145	
1981	0.146	0.072	0.023	0.013	0.008	0.003	0.011	0.015	0.048	0.065	0.404	123	93,203
1982	0.111	0.053	0.025	0.019	0.005	0.002	0.015	0.016	0.041	0.051	0.339	103	78,121
1983	0.209	0.045	0.037	0.023	0.005	0.001	0.011	0.038	0.041	0.092	0.501	153	115,644
1984	0.138	0.068	0.023	0.010	0.004	0.002	0.010	0.014	0.020	0.032	0.321	98	73,981
1985	0.141	0.064	0.028	0.015	0.005	0.002	0.010	0.017	0.038	0.043	0.363	111	83,668
1986	0.162	0.056	0.009	0.005	0.002	0.002	0.008	0.015	0.034	0.040	0.332	101	76,668
1987	0.157	0.051	0.031	0.010	0.004	0.002	0.011	0.023	0.031	0.040	0.360	110	83,104
1988	0.120	0.054	0.032	0.009	0.005	0.003	0.012	0.022	0.030	0.036	0.324	99	74,686
1989	0.097	0.029	0.012	0.007	0.004	0.002	0.005	0.021	0.017	0.029	0.222	68	51,123
1990	0.142	0.048	0.016	0.004	0.003	0.000	0.017	0.021	0.016	0.067	0.335	102	77,328
1991	0.141	0.056	0.011	0.006	0.003	0.002	0.013	0.018	0.019	0.033	0.302	92	69,676
1992	0.090	0.051	0.052	0.006	0.003	0.001	0.011	0.022	0.031	0.055	0.321	98	74,180
1993	0.103	0.056	0.032	0.005	0.002	0.000	0.010	0.015	0.030	0.037	0.292	89	66,711
1994	0.125	0.059	0.027	0.003	0.004	0.001	0.013	0.023	0.029	0.059	0.343	105	77,463
1995	0.239	0.129	0.037	0.005	0.005	0.002	0.023	0.031	0.043	0.146	0.660	201	147,392
1996	0.162	0.080	0.035	0.005	0.007	0.001	0.019	0.029	0.064	0.117	0.519	158	114,553
1997	0.121	0.057	0.014	0.003	0.004	0.000	0.016	0.015	0.014	0.069	0.312	95	68,128
1998	0.228	0.083	0.048	0.008	0.010	0.001	0.021	0.028	0.020	0.097	0.544	166	117,431
1999	0.106	0.036	0.034	0.003	0.014	0.000	0.011	0.015	0.009	0.050	0.279	85	59,536
2000	0.131	0.069	0.008	0.007	0.009	0.001	0.009	0.011	0.015	0.049	0.308	94	64,995
2001	0.077	0.064	0.014	0.006	0.013	0.001	0.012	0.008	0.008	0.034	0.238	72	49,582
2002	0.173	0.067	0.019	0.005	0.014	0.001	0.014	0.021	0.007	0.056	0.376	115	77,614
2003	0.153	0.104	0.020	0.003	0.019	0.000	0.016	0.019	0.025	0.006	0.367	112	74,753
2004	0.172	0.136	0.014	0.004	0.022	0.000	0.017	0.024	0.033	0.006	0.428	130	86,041
2005	0.162	0.045	0.017	0.007	0.025	0.001	0.011	0.013	0.016	0.072	0.369	112	73,255
2006	0.173	0.047	0.017	0.009	0.041	0.001	0.015	0.021	0.017	0.045	0.386	118	75,717
2007	0.148	0.066	0.006	0.001	0.005	0.000	0.005	0.008	0.016	0.025	0.281	86	55,256
2008	0.158	0.091	0.024	0.005	0.021	0.001	0.009	0.012	0.022	0.032	0.375	114	73,541

Monthly tributary underflow (AF) from Salmon Falls Creek drainage

Based on annual underflow of 111,000 AF (Crosthwaite, 1969) and Silver Creek time series from Trib\_Underflow\_V2\_11\_04\_09.csv

W-YR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Water year underflow (AF)
1980								10,202	9,873	10,202	10,202	9,873	
1981	10,202	9,873	10,202	10,202	9,215	10,202	9,873	9,559	9,250	9,559	9,559	9,250	116,947
1982	9,559	9,250	9,559	9,559	8,634	9,559	9,250	10,937	10,585	10,937	10,937	10,585	119,352
1983	10,937	10,585	10,937	10,937	9,879	10,937	10,585	10,937	10,585	10,937	10,937	10,585	128,780
1984	10,937	10,585	10,937	10,937	10,232	10,937	10,585	10,570	10,229	10,570	10,570	10,229	127,318
1985	10,570	10,229	10,570	10,570	9,547	10,570	10,229	10,018	9,695	10,018	10,018	9,695	121,730
1986	10,018	9,695	10,018	10,018	9,049	10,018	9,695	10,110	9,784	10,110	10,110	9,784	118,412
1987	10,110	9,784	10,110	10,110	9,132	10,110	9,784	9,072	8,779	9,072	9,072	8,779	113,914
1988	9,072	8,779	9,072	9,072	8,486	9,072	8,779	8,842	8,557	8,842	8,842	8,557	105,970
1989	8,842	8,557	8,842	8,842	7,986	8,842	8,557	9,145	8,850	9,145	9,145	8,850	105,603
1990	9,145	8,850	9,145	9,145	8,260	9,145	8,850	8,888	8,601	8,888	8,888	8,601	106,407
1991	8,888	8,601	8,888	8,888	8,028	8,888	8,601	8,869	8,583	8,869	8,869	8,583	104,557
1992	8,869	8,583	8,869	8,869	8,297	8,869	8,583	8,594	8,317	8,594	8,594	8,317	103,356
1993	8,594	8,317	8,594	8,594	7,762	8,594	8,317	9,651	9,339	9,651	9,651	9,339	106,401
1994	9,651	9,339	9,651	9,651	8,717	9,651	9,339	8,566	8,290	8,566	8,566	8,290	108,277
1995	8,566	8,290	8,566	8,566	7,737	8,566	8,290	10,110	9,784	10,110	10,110	9,784	108,481
1996	10,110	9,784	10,110	10,110	9,458	10,110	9,784	10,202	9,873	10,202	10,202	9,873	119,820
1997	10,202	9,873	10,202	10,202	9,215	10,202	9,873	10,386	10,051	10,386	10,386	10,051	121,030
1998	10,386	10,051	10,386	10,386	9,381	10,386	10,051	10,294	9,962	10,294	10,294	9,962	121,833
1999	10,294	9,962	10,294	10,294	9,298	10,294	9,962	9,926	9,606	9,926	9,926	9,606	119,390
2000	9,926	9,606	9,926	9,926	9,286	9,926	9,606	9,072	8,779	9,072	9,072	8,779	112,978
2001	9,072	8,779	9,072	9,072	8,194	9,072	8,779	8,658	8,379	8,658	8,658	8,379	104,770
2002	8,658	8,379	8,658	8,658	7,820	8,658	8,379	8,802	8,518	8,802	8,802	8,518	102,650
2003	8,802	8,518	8,802	8,802	7,950	8,802	8,518	8,793	8,509	8,793	8,793	8,509	103,586
2004	8,793	8,509	8,793	8,793	8,225	8,793	8,509	8,878	8,591	8,878	8,878	8,591	104,229
2005	8,878	8,591	8,878	8,878	8,019	8,878	8,591	9,559	9,250	9,559	9,559	9,250	107,888
2006	9,559	9,250	9,559	9,559	8,634	9,559	9,250	9,710	9,397	9,710	9,710	9,397	113,291
2007	9,710	9,397	9,710	9,710	8,770	9,710	9,397	8,927	8,639	8,927	8,927	8,639	110,462
2008	8,927	8,639	8,927	8,927	8,063	8,927	8,639	8,251	7,985	8,251	8,251	7,985	101,772